

AMENDMENTS TO CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Currently Amended) A electrophoresis separator comprising an electrophoresis tank and a receiving tank as its main body; electrodes for driving electric current ~~are being~~ provided separately in said electrophoresis tank and said receiving tank which are filled with electric conducting liquid to form an electric current passage; and said electrophoresis separator ~~is being~~ characterized ~~by~~ in that:

said receiving tank is used for placing carriers therein and provided with a slot on each side thereof to communication with said electrophoresis tank; one side of each of said carriers is provided with a notch ~~in~~ corresponding to one of said slots[[,]] in order that after a sample solution is dropped on said carriers, said carriers are directly inserted in said receiving tank; a bottom blocking piece provided at the bottom of said receiving tank directly covers the bottoms of said carriers and crevices between said notches and said receiving tank[[,]]; ~~and~~ blocking sheets are inserted into said slots and notches, said blocking sheets are removed from said slots and notches after a gel filled in said carriers is fixed and shaped, and thus said gel contacts ~~with~~ said electric conducting liquid in said electrophoresis tank through said slots and notches; the other ends of the bodies of said gel in said carriers contacts said electric conducting liquid in said receiving tank through upper openings of said carriers directly, so that when said electrodes in said electrophoresis tank and said receiving tank are activated, electrons produced in said receiving tank by said electrodes ~~are drifted~~ drift to said electrodes of said electrophoresis tank through said gel in said carriers; and thus electric current floating ~~is resulted to cause~~ causes an effect of molecule separation and analysis for samples in said gel,

wherein said carriers are formed each by sure positioning of a first clamping sheet and a second clamping sheet to form a structure to receive said sample solution; positioning pins and

Serial Number 09/963,564

positioning holes are provided on said two clamping sheets separately; and protruding sockets all of a specific height are provided on one of said clamping sheets at the surface to be contacted with the other of said clamping sheets, wherein when said two clamping sheets are abutted upon each other, said protruding sockets form a crevice between said two clamping sheets to enable an operator to position said two clamping sheets of said carrier promptly and get a thickness of said gel accurately after shaping, and

wherein clamping members are provided on one of said first and second clamping sheets of each of said carriers, so that when said two clamping sheets are abutted upon and positioned relative to each other, said clamping members are directly used to fixedly clamp said two clamping sheets and assure firmness of said structure.

2. (Canceled)

3. (Canceled)

4. (Currently Amended) An electrophoresis separator as claimed in claim ~~2~~ 1, wherein,
an elastic sheet is sandwiched between said first and second clamping sheets of each of said carriers in order to increase compactness between said two clamping sheets and help shaping of said gel so as to avoid gel spilling.

5. (Canceled)

6. (Currently Amended) An electrophoresis separator as claimed in claim ~~2~~ 1, wherein,
a convex grasp portion is provided on the top end of one of said first and second clamping sheets of each of said carriers in order that an operator grasps said carrier.

7. (Original) An electrophoresis separator as claimed in claim 1, wherein,
a finger hole is provided on said grasp portion for insertion of fingers.

8. (Currently Amended) An electrophoresis separator as claimed in claim 1, wherein,
said notches formed at the ~~lateral~~ sides of said carriers are directly provided each at the bottom of a corresponding one of said first and second clamping sheets, and two fitting-in portions are provided respectively on said bottom blocking pieces to match and fit in said notches, an opening ~~is~~ being provided at each of said fitting-in portions for insertion of said blocking sheets.

9. (Original) An electrophoresis separator as claimed in claim 1, wherein,
positioning members are provided in said electrophoresis tank to fix said receiving tank therein.

10. (Currently Amended) An electrophoresis separator as claimed in claim 1, wherein,
a cathode and an anode of said electrodes are provided simultaneously on the top of said receiving tank, ~~and~~ said cathode and anode ~~are~~ being connected to said electric conducting liquid in said electrophoresis tank and receiving tank via conductors; and an upper lid is used to cover said reaction separator device, an electrode connector ~~is~~ being provided on said upper lid in favor of supplying electric current for said electrodes.

11. (Original) An electrophoresis separator as claimed in claim 1, wherein,
positioning grooves are provided in said receiving tank to position said carriers, and press fixers are provided on the top of said receiving tank to fix said carriers.